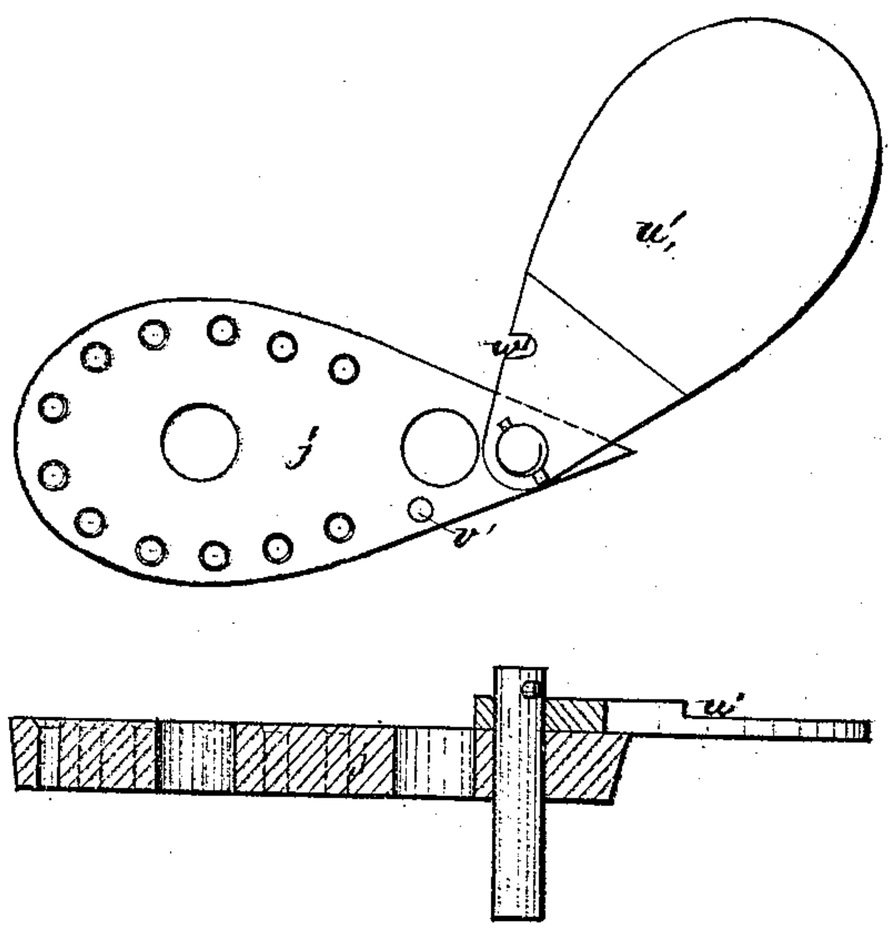
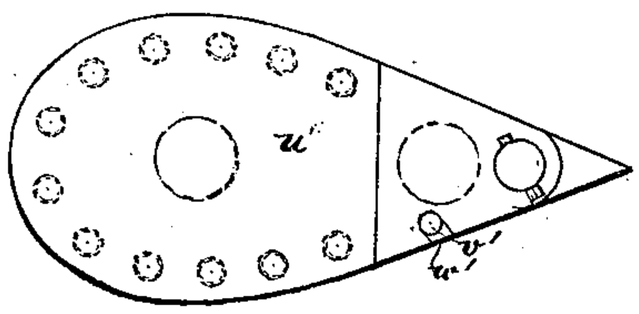
W. F. Spinney,

Heel Machine.

No. 103,792. Patented May 31. 1870.





Witnesses { C. Warren Brown.
L. H. Latimer.

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By his Attys
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United States Patent Office.

WILLIAM F. SPINNEY, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GORDON McKAY, TRUSTEE.

Letters Patent No. 103,792, *dated May* 31, 1870.

IMPROVEMENT IN BOOT AND SHOE-HEELING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM F. SPINNEY, of Lynn, in the county of Essex and State of Massachusets, have invented an Improvement in Heeling-Machines; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In nailing heels to boots and shoes by machinery, it has heretofore been the practice, where the nail-heads have been covered from view by a tread-lift of leather, to use drivers of such length as not to come to the surface of the block containing the drivers, which surface is the one acting upon the lift of the heel through which the nails enter, and between which and the opposed surface of the last within the boot or shoe the material of the heel is compressed, as explained in the application for United States Letters Patent by Charles W. Glidden, executed as of even date herewith. The nails are thus left projecting beyond the surface of the lift through which they enter, say, about the tenth of an inch, and the driver-block is lowered, and the outer lift placed thereon, and the support for the boot or shoe is raised a distance slighly less than the thickness of said outer lift, which is then forced upon the projecting nail-heads when the driver-block is raised. But, as there are holes in the driver-block in which the drivers move, and into which the nails are entered before they are driven, it follows, in the act of forcing the outer tread-lift of the heel upon the nails, that the leather is pushed into said holes, leaving a bunch or projection of leather directly over each nail-head on the tread-surface of the tread-lift, which bunches or projections have to be cut off, and the surface finished.

Now, by my invention, I avoid the formation of such bunches, and, consequently, the need of finishing the tread-surface of the tread-lift; and I accomplish this by placing upon the upper surface of the driver-block, or upon the upper surface of any extension-piece that is secured thereunto, a flat smooth plate, after the driver-block is lowered and after the nails have been driven into the heel, but left projecting slightly, as before explained. The outer tread-lift, that is to be forced upon the projecting nail-heads, is then placed on said plate, the boot or shoe-support is raised a distance slightly less than the thickness of said plate and the thickness of the tread-lift, and said lift is then raised, and forced upon the projecting nail-heads by the act of raising the driver-block; and it will be found that the surface of the tread-lift is left smooth and free from bunches or projections.

This invention is not confined, in its application, to any specific heel-nailing machine, though I shall herein describe it in connection with so much of a machine as may be necessary for illustration, as is shown and described in an application for United States Letters Patent for the invention of Charles W. Glidden, before referred to.

Figure 1 of the drawing represents in vertical central section the extension-plate *j*, which is applied to the top of the driver-block, said plate being perforated for the nails and drivers.

Figure 2 shows the same in plan, with my addition of a plate, *u'*, in one position which it has to assume, while in

Figure 3 said addition is shown in its other necessary position.

It will now be seen how, if a heel is placed on *j*, or on the driver-block, with drivers adjusted as described, and with nails over the drivers, and with a shoe properly sustained over the heel, the nails will, when the drivers are forced upward, be driven through the lifts of the heel into the sole, and how the lifts of the heel must be compressed together by the action of the upper surface of *j* against the lift, through which the nails enter; and it will also be seen that the nail-heads will be left projecting beyond the lift, through which the nails enter just the distance which the drivers fall short of coming to the surface, which supports and acts against said lift. I add to this arrangement the plate *u'*, which I can place over the upper surface of *j*, and arrange it, preferably, as shown, by pivoting the plate *u'*, so that I can swing it over the nail and driver-holes, as in fig. 3, or so that I can uncover them, as in fig. 2.

In driving the nails, I leave plate *u'* in the position seen in fig. 2, and then I lower plate *j* and the parts connected therewith, swing plate *u'* to the position seen in fig. 3, and place thereon a lift of leather, which makes the tread of a heel, with the breast of the tread-lift against a gauge-projection on the plate, which projection is plainly seen in the drawing.

To bring the breast-gauge projection to the right position on plate *j*, I insert therein a register-pin, *v'*, which checks the plate *u'* at the proper place, or registers it, the slot at *w'* embracing the pin *v'* when plate *j* is in position for receiving the tread-lift. Then I raise the support of the shoe a distance about equal to or slightly less than the thickness of the tread-lift and plate *u'*, and cause plate *j* and parts connected therewith to rise, which results in the forcing of the tread-lift upon the projecting nails, which, however, do not project far enough to come through the lift, so that the nail-heads are completely covered, and the tread-lift is securely attached to and made part of the heel.

With the drivers *k* falling short of the surface of *j*, it will be seen that the leather is compressed at the time the nails are driven, so that the heel is just as

solid as though made under the action of drivers set to come flush with the surface acting on the leather.

If it is not desirable to have all of the nails left projecting, then some of the drivers may be of full length, and others left short.

I claim—

For use in a machine for nailing heels to boots or shoes from the outside, the combination of the plate *u'* with the piece which presses upon the lift through which the nails are driven.

Also, the construction of said plate with a register-gauge, when said plate is provided with means for registering its position on the piece *j*, or the driver-block.

WM. F. SPINNEY.

Witnesses:
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